Worksheet #3A
Gerrymandering Discussions
Workshop Version

AMS AMERICAN MATHEMATICAL SOCIETY

AMS Engaged Pedagogy Workshop
Mathematical Foundations for
Democratic Processes

Introduction: This worksheet captures a few think/pair/share activities we'll be working on in breakout rooms.

Goal(s): Think critically about fairness criteria.

Activity: For each of the following questions, we will have a think/pair/share discussion. First, you should think about the topic on your own for three minutes. Then you'll be placed in a breakout room with 1-2 others for two minutes to share. Then there will be an opportunity to share with the larger group.
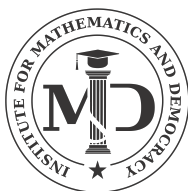
Discussion #1: The US Constitution puts the power of redistricting with state legislatures but otherwise says little about what principles must be followed. States make their own laws. Some common criteria:

- Compactness: districts forgo further regions in favor of those closer at hand

- Contiguity: all one piece

- Preservation of counties and other political subdivisions

- Preservation of communities of interest: areas where the residents have common interests that could be the subject of legislation

- Preservation of cores of prior districts

- Avoiding pairing incumbents

Think/Pair/Share: Are each of these fairness criteria good? Are they necessary? What would you add? Are they sufficient for making sure maps do not favor one party or another?

Discussion #2: In redistricting, compactness describes the extent to which a district is tightly contained, or forgoes distant area/population in favor of nearby area/population. There is no one accepted measure of compactness.

Think/Pair/Share: Brainstorm some ideas on how you would measure the compactness of a district/of a districting plan. Can you see any strengths or weaknesses of what you've suggested?

Discussion #3:   More recently, some states have passed laws with new, fairness-minded criteria. Examples:

- Prohibition on favoring or disfavoring an incumbent, candidate or party

- Prohibition on using partisan data

- Competitiveness

- Proportionality

Think/pair/share: What are the strengths and weaknesses of these fairness criteria? How can they be measured? Do you see any potential issues?